the pulli, whilst *Kellia suborbicularis* requires the tube to be closed, as it is for some time a nidus for the full development of the testaceous young.

I am at this moment enabled to add, that I have just opened a very large *Kellia suborbicularis* having the contents of the ovarium converted from its usual ova-like aspect into many thousands of completely testaceous young further to be developed before exclusion from the anomalous oviduct.

The reason why this state of the ova has so often escaped detection is, that the ovarium has not been examined at the *genial* season. To see it as I have stated, we must attend to the injunction of C. Lucretius—

"Ætheris et terræ *genitabile* quærere tempus."

I have on a card many thousands of the testaceous young taken from the matrix of the individual above mentioned, a part of which I shall have much pleasure in forwarding to any gentleman who may desire it.

It gives me great pleasure that the question of the use of the anomalous tubes is at length set at rest, and the discussion as to them between Mr. Alder and myself is ended.

PROCEEDINGS OF LEARNED SOCIETIES.

ZOOLOGICAL SOCIETY.

June 27, 1848.—William Yarrell, Esq., V.P., in the Chair.

DESCRIPTION OF FOURTEEN NEW SPECIES OF HELICEA, FROM THE COLLECTION OF H. CUMING, ESQ. BY DR. L. PFEIFFER.

1. HELIX VITELLINA, Pfr. *Hel. testâ angustissimè umbilicatâ, depresso-globosâ, supernè minutissimè decussatâ, vix nitidâ, fusces-centi-vitellinâ; spirâ breviter conoideâ, obtusiusculâ; anfractibus* $5\frac{1}{2}$ *convexiusculis, ultimo anticè subdescendente, infra peripheriam vix striato, juxta umbilicum contractum albo; aperturâ obliquâ, lunato-rotundatâ; peristomate simplice, marginibus remotis, columellari albo, incrassato-reflexo, supernè subdilatato.*

Diam. 29, altit. 18 mill.

Locality unknown.

2. HELIX GEMMA, Pfr. (*Vitrina suturalis*, Beck MSS.) *Hel. testâ subperforatâ, conoideo-orbiculatâ, tenui, lævigatâ, nitidâ, pellucidâ, virenti-hyalinâ; spirâ depresso-conoideâ; suturâ submarginatâ; anfractibus* 4 *vix convexiusculis, sensim accrescentibus, ultimo non descendente; aperturâ parùm obliquâ, rotundato-lunari; peristomate simplice, recto, margine columellari brevi, arcuato, supernè reflexiusculo.*

Diam. 9, altit. 5 mill.

From the islands of Luzon and Camiguing; collected by Mr. Cuming.

3. Helix subfusca, Pfr. (*Vitrina subfusca*, Beck MSS.) *Hel. testâ subperforatâ, depressâ, tenui, subtiliter striatulâ, pellucidâ, corneo-fuscâ; spirâ vix elevatâ; suturâ levi, submarginatâ; anfractibus* $4\frac{1}{2}$ *vix convexiusculis, celeriter accrescentibus, ultimo peripheriâ rotundato, anticè non descendente; aperturâ subobliquâ, latè lunari; peristomate simplice, tenui, recto, marginibus conniventibus, dextro subsinuato, columellari subverticali, supernè vix reflexiusculo.*

Diam. $11\frac{1}{2}$, altit. $6\frac{1}{3}$ mill.

From Sorsogon, isle of Luzon; collected by Mr. Cuming.

4. Helix vargasiana, Pfr. *Hel. testâ subobtectè perforatâ, conico-globosâ, costulatâ, opacâ, cretaceâ, fasciis nonnullis obsoletis griseis notatâ; spirâ conicâ, obtusâ; anfractibus* $5\frac{1}{2}$ *convexis, ultimo inflato, anticè descendente; aperturâ lunato-rotundatâ; peristomate simplice, margine supero et dextro rectis, basali breviter, columellari latissimè reflexo, subverticali, perforationem ferè tegente.*

Diam. 13, altit. $8\frac{1}{2}$ mill.

From the island of Porto Sancto; collected by Count Vargas.

5. Helix calcarea, Pfr. *Hel. testâ perforatâ, depresso-globosâ, striatulâ, lineis impressis obsoletè reticulatâ, opacâ, calcareâ; spirâ breviter conoideâ, acutiusculâ; anfractibus 5 convexiusculis, ultimo peripheriâ subcarinato, anticè vix descendente; aperturâ subverticali, latè lunari; peristomate simplice, margine supero leviter arcuato, basali breviter, columellari paulò latius reflexo, declivi.*

Diam. 15, altit. 10 mill.

From Porto Sancto; collected by Count Vargas.

6. Helix casta, Pfr. *Hel. testâ imperforatâ, depressâ, utrinque subæqualiter convexâ, carinatâ, striatulâ, nitidâ, sub epidermide deciduâ pallidè lutescente albâ; suturâ lineari, cretaceâ; anfractibus 4 subplanis, ultimo juxta suturam et infra carinam obsoletè angulato; columellâ brevi, declivi, excavatâ, basi subtortâ; aperturâ subtrapeziâ; peristomate expanso, albo, margine basali leviter arcuato, cum columellâ angulum formante.*

Diam. 47, altit. 23 mill.

Locality unknown.

7. Helix anomala, Pfr. *Hel. testâ umbilicatâ, depressâ, carinatâ, solidâ, utrinque convexiusculâ, granulatâ, violaceo-fuscâ; anfractibus 5 convexiusculis, ultimo undique soluto, anticè subitò descendente, basi constricto, profundè 4-scrobiculato; umbilico cylindrico, aperto; aperturâ horizontali, transversè pyriformi; peristomate crasso, continuo, hepatico, undique latè expanso, margine basali profundè quadridentato.*

Diam. 24, altit. 11 mill.

From Jamaica. Nearly allied to *H. sinuata*, but differing in the umbilicus and the form of the mouth. Nevertheless it may possibly be a monstrous variety of that shell.

8. Bulimus imperator, Pfr. *Bul. testâ imperforatâ, ovato-conicâ, solidâ, striatulâ, strigis nigris, fulvis et albidis alternantibus,*

interdum interruptis elegantissimè pictâ; spirâ elongato-conicâ, acutiusculâ; anfractibus 6, *superioribus planiusculis,* 2 *ultimis convexis, ultimo spirâ multò breviore; columellâ subverticali, basi extrorsum subdentatâ, carneo-lividâ; aperturâ truncato-ovali, intus cærulescente; peristomate latè expanso, nigro-marginato, margine dextro vix arcuato.*

Long. 68, diam. 38 mill.

From the Philippine Islands.

9. Bulimus monozonus, Pfr. *Bul. testâ imperforatâ, conoideo-ovatâ, solidulâ, longitudinaliter obliquè plicatâ, saturatè castaneâ; spirâ conoideâ, obtusâ; anfractibus* $5\frac{1}{2}$ *convexis, ultimo spirâ paulò breviore, ad peripheriam cingulo lato albo ornato; columellâ subverticali, basi extrorsum subtuberculatâ; aperturâ lunato-ovali, intus margaritaceâ; peristomate obtuso, vix expansiusculo, margine basali cum columellâ angulum obtusum formante.*

Long. 52, diam. 32 mill.

From the Philippine Islands.

10. Bulimus leptochilus, Pfr. *Bul. testâ imperforatâ, oblongo-ovatâ, solidulâ, striatâ et malleatâ, sub epidermide olivacescente castaneo-marmoratâ; spirâ elongato-conicâ, obtusâ; anfractibus* 6 *vix convexiusculis, ultimo spiram vix superante; columellâ recedente, obsoletissimè plicatâ; aperturâ oblongâ, angustâ; peristomate breviter expanso, simplice, tenui, pallidè carneo, marginibus callo tenuissimo junctis.*

Long. 98, diam. 40 mill.

From La Baja, province of Pamplona, New Granada (Funck).

Nearly allied to *Bul. Moritzianus*, Pfr.

11. Bulimus costatus, Pfr. *Bul. testâ vix perforatâ, solidâ, cylindraceo-turritâ, longitudinaliter subconfertim costatâ, nitidâ, cinerascenti-carneâ; spirâ elongatâ, obtusâ; anfractibus* $8\frac{1}{2}$ *planiusculis, ultimo* $\frac{1}{3}$ *longitudinis vix æquante; columellâ supernè dentato-plicatâ; aperturâ oblongâ, intus fuscâ; peristomate breviter expanso, margine dextro supernè arcuato, tum strictiusculo, columellari dilatato, reflexo, perforationem ferè tegente.*

Long. 18, diam. $5\frac{1}{2}$ mill.

From the Brazils.

12. Achatina Reeveana, Pfr. *Ach. testâ oblongo-turritâ, tenui, sublævigatâ, sub lente spiraliter subtilissimè striatâ, nitidulâ, sub epidermide fugace, lutescente albidâ, luteo-bifasciatâ; spirâ subturritâ, obtusâ; suturâ regulariter crenulatâ; anfractibus* $7\frac{1}{2}$, *omnibus convexiusculis, ultimo* $\frac{3}{7}$ *longitudinis subæquante; columellâ tenui, strictiusculâ, brevissimè truncatâ; aperturâ truncato-ovali; peristomate tenuissimo.*

Long. 48, diam. 22 mill.

From West Africa. Very similar to *Ach. alabaster*, Rang.

13. Achatina portoricensis, Pfr. *Achat. testâ turrito-oblongâ, lævigatâ, lineis longitudinalibus impressis irregulariter sculptâ, nitidâ, pallidè corneâ, strigis saturatioribus ornatâ; spirâ elon-*

gatâ, obtusiusculâ; anfractibus 8 *planiusculis, ultimo* ⅓ *longitudinis paulò superante; columellâ antrorsum arcuatâ, prope basin aperturæ abruptè truncatâ; aperturâ elliptico-semiovali; peristomate simplice.*

Long. 20, diam. 7 mill.

From St. John's, Portorico (under stones).

14. Clausilia Sieboldti, Pfr. *Claus. testâ arcuato-rimatâ, fusiformi, solidâ, confertim costulatâ, vix nitidulâ, corneo-fuscâ; spirâ sensim attenuatâ, acutâ; anfractibus* 10 *convexis, ultimo penultimum non superante, basi rotundato, obsoletè gibbo; aperturâ magnâ, pyriformi; lamellis mediocribus, convergentibus; lunellâ profundâ, arcuatâ, extus conspicuâ; plicâ palatali* 1 *mediocri subcolumellari inconspicuâ; peristomate continuo, libero, albo, expanso, reflexiusculo.*

Long. 18, diam. 4 mill.

From Japan (Sieboldt).

July 11.—R. C. Griffith, Esq., in the Chair.

The following papers were communicated to the Meeting:—

1. On the Occurrence and Habits of Vespertilio emarginatus. By R. F. Tomes.

The specimen of a Bat, the habits of which I am about to describe, was taken in Warwickshire, near Stratford-on-Avon, whilst flitting around the tops of some high elms by the Avon-side on the 20th of June, 1847. It was in company with several others when I succeeded in shooting it, which I found very difficult on account of their exceedingly crooked, irregular mode of flight.

I believe I have never seen one of these flying in open places in a straightforward manner, as the commoner species, the Noctule and Pipistrelle, usually do; but they follow intimately and exactly the extremities of the top branches of high elm or ash trees, always in the most sheltered and quiet spots, never appearing on the windward side of a tree, even on the calmest evening. They seem of a much more social disposition than any other kind of Bat, being usually in parties of about half-a-dozen, and all of them most commonly hawking round the same tree for a few minutes, then moving off to the next, and so on till all the trees of the group have been searched; and then a re-examination of the same trees takes place.

As above stated, their flight is never straight, even for a moment, but is excessively vacillating and butterfly-like, though rather slow,—performed, as I believe, with the head directed towards the centre of the tree, so that they in fact fly in a sideward direction. From this circumstance I conclude that they take their food, which consists of very minute gnats, while resting on the outer leaves, or when about to settle on them.

If watched very closely for a little time, they move on to some other tree, appearing to shun observation very carefully.

Gilbert White, I think, remarked of the Noctule, that it usually came abroad later than the Pipistrelle, which I can from personal

experience affirm to be the case. The species now under consideration is even later than the Noctule, seldom being seen until the latter has been abroad for an hour; so late that, excepting on very clear evenings, there is little chance of either observing or obtaining specimens.

It is probable that they may be seen during the greater part of the summer months, for I remember to have seen and particularly noticed them for a long time before I thought of shooting one, and also for a considerable length of time afterwards. They may at any time be known by a person at all conversant with the method of flight of the different species of Bats, by their unsubstantial, butterfly-like appearance.

Both the specimens which came into my possession in the way alluded to were females, and on dissection contained a single fœtus, about half an inch in length; yet even at this early age the membranes were considerably developed, and all the parts bore nearly the same relative proportion to each other as in the adult.

The auricle of the ear appeared to be nearly, if not quite fully formed, and folded forward over the eyes, reaching almost to the end of the nose.

When skinned and dissected this Bat was quite free from all unpleasant smell.

Dimensions.

	in.	lin.
Length of the head and body	1	$7\frac{1}{2}$
Length of head	0	$7\frac{1}{2}$
Length of tail	1	$6\frac{1}{2}$
Length of the auricle	0	6
Width of ditto	0	$3\frac{1}{2}$
Length of the tragus	0	4
Width of ditto	$\frac{1}{10}$	0
Extent of wings	9	$2\frac{1}{2}$
Length of the humerus	0	9
Length of the thumb	0	2
Length from the point of the under jaw to the angle of the mouth, being the gape-line	0	3

Dentition.

$$i.\ \frac{4}{6};\ c.\ \frac{2}{2};\ f.m.\ \frac{6}{6};\ m.\ \frac{6}{6}:\ \text{total}\ \frac{18}{20}.$$

Since the specimen obtained by Brongniart in the neighbourhood of Dover, none are recorded as having occurred till the present time, with the exception of a single specimen mentioned by Professor MacGillivray, from Winchester, and described by him in the 'Naturalists' Library,' vol. xvii. He there states that the ears have "a semicircular lobe at the base of their outer side, and a wide and deep sinus in their upper half," which certainly is not the case with my specimens, the notch being neither wide nor deep, nor the lobe at the base at all distinctly marked. Neither is there any great resemblance to Mr. Bell's figure, taken from Brongniart's; the ears in that being much narrower in proportion to their length, with the sinus near the

top of the outer side. It agrees however very nearly with the description and figure given by the latter naturalist from the specimen found by him near Dover, and there can be no doubt of its identity with his specimen of *Vespertilio emarginatus*.

2. On the Species of the Genus Placenta of Retzius. By J. E. Gray, Esq., F.R.S. etc. etc.

Lamarck describes three species of this genus, depending on the general outline and the waved or flat form of the shell, characters which are liable to considerable variations, as may be found on the mere inspection of any large number of specimens.

I have observed that the hinge forms a more permanent character, and affords the means of dividing the species into two sections, and furnishes characters which separate them from each other. In both subgenera the right valve is the flattest, and bears the ridges of the hinge.

Sect. I. *Placuna*, sp. Lamk. = *Ephippium*, Chemn.; *Placenta* β, Schum. *Shell purplish, subopake; hinge-ridges rapidly diverging from one another at about the angle of* 45 *degrees. Muscular scar under the centre of the hinge. The ridges of nearly equal length.*

1. *Placenta Sella.*—Shell flexuous, outline rather rhombic, being straight in front and rather notched behind; the ridges of the hinge not longer than they are separate from each other at the base.

Anomia Sella, Gmelin, S. N. 3345, 1788.

Placuna Sella, Lamk. Hist. N. 2.

Ephippium anglicanum maximum, Chemn. C. viii. t. 79. f. 714. cop. E. M. t. 174. f. 1.

Placenta Ephippium, Retz. 1788.

Inhab. China, India.

β. Shell nearly flat, subquadrangular.

Inhab. Australia. Brit. Mus.

2. *Placenta papyracea*; *Placuna papyracea*, Lamk. Hist. N. 2 = *Ephippium parvum*, Chemn. Conch. viii. t. 79. f. 719. cop. E. M. t. 174. f. 2.

3. *Placenta Lincolnii.*—Shell flat, outline suborbicular, rounder before and behind; ridges of the hinge elongate, longer than they are separate from each other at the base.

Inhab. Australia; Mr. W. Davison. British Museum.

I wish to name this species after my excellent friend Mr. Abraham Lincoln, who kindly presented me with the specimen here described, and who is well known for his fondness for conchology and the liberality with which he allows persons to use his extensive collection.

Sect. II. *Placenta*; *Placenta*, Schum. *Shell semitransparent, flat, outline suborbicular; ridges of the hinge very gradually diverging from each other, the hinder ridge much the longest. Muscular scar rather in front of the middle of the hinge.*

1. *Placenta orbicularis*, Retz.; *Placuna placenta*, Lamk. Hist. N. 3; *Anomia placenta*, Linn. S. N. 1154; Chemn. Conch. viii. t. 79. f. 176. cop. E. M. t. 173. f. 2.

Shell colourless, semitransparent; when young, pale purplish.

Inhab. China. N.W. Coast of Australia; *Earl of Derby*. Port Essington.

The shells vary a little in the inequality of the hinge-ridges, but the hinder is always the longest.

I may remark that Chemnitz gives the best character for the species, and has observed the character furnished by the hinge, which has been overlooked by Lamarck, and, as far as I am aware, by all recent authors.

MISCELLANEOUS.

The Effect of Iodine upon the Nectary. By Dr. R. Caspary*.

We consider the nectary as a peculiar organ, in a physiological as well as in a morphological sense; *physiological*, inasmuch as it secretes a saccharine fluid, and *morphological*, inasmuch as its cells are distinguished both by their structure and their contents from the cells of the neighbouring parts of the plant. The cells of the nectary are very small, globular or nearly so, and they contain a peculiarly dense and granular matter.

One of the most important inquiries connected with the physiology of the nectary is to ascertain, how the sugar which it secretes is produced?

This question is only, as we may consider, one special form of the general question, how is sugar produced?

Without entering minutely into the general inquiry, we will refer only to two modes of the production of sugar, which probably have a special bearing upon the case before us.

1st. Sugar is produced from starch by the presence of *diastase*, which however cannot be prepared as an independent substance, and the existence of which is consequently disputed. Its active element appears to be nitrogen, so that we may say that sugar is produced from starch *by the presence of a body containing nitrogen*.

2ndly. Sugar is produced from starch or cellulose by the presence of *sulphuric acid*.

Frémy has made use of the latter mode of the production of sugar in accounting for the sugar in fruits. He endeavours to demonstrate that as starch or cellulose is converted into sugar by sulphuric acid, so certain substances, present in fruits and taking the place of starch or cellulose, are changed into sugar by the presence of free vegetable acids, which act in a similar way to sulphuric acid. This mode of the production of sugar has not yet been alluded to in accounting for the sugar of the nectaries of plants.

The first mode of the production of sugar, according to which starch is changed into sugar by the action of a body containing nitrogen, is employed by Liebig in his 'Chemistry of Agriculture and Physiology,' in illustrating the formation of sugar in the trunks of trees, as in the maple. He however does not prosecute the subject

* From the 'Botanische Zeitung,' Feb. 23, 1849. Translated and communicated by the author.